IN THE CLAIMS:

Please cancel claim 20.

Please amend claims 1, 3, 21 and 22 as follows:

1. (Twice Amended) A direct injection fuel injector having a fuel inlet, a fuel outlet, and a fuel passageway extending from the fuel inlet to the fuel outlet along a longitudinal axis, the fuel injector comprising:

a body having an inlet portion, an outlet portion, a neck portion disposed between the inlet portion and the outlet portion, the neck portion including a cylindrical annulus that provides a body passage extending from the inlet portion to the outlet portion along the longitudinal axis of the fuel injector;

an armature proximate the inlet portion of the body;

a cylindrical needle operatively connected to the armature;

a seat disposed at the outlet portion of the body; and

a swirl generator proximate the seat, the swirl generator having a guide member contiguous to a flat disk;

wherein the cylindrical annulus of the body includes an inner diameter that is greater than a diameter of the cylindrical needle so as to define the body passage, which maintains an operative relationship between the body and the needle when the body is exposed to operating temperatures of a cylinder of an engine.

3. (Twice Amended) A direct injection fuel injector having a fuel inlet, a fuel outlet, and a fuel passageway extending from the fuel inlet to the fuel outlet along a longitudinal axis, the fuel injector comprising:

a body having an inlet portion, an outlet portion, a neck portion disposed between the inlet portion and the outlet portion, the neck portion including a cylindrical annulus that provides a body passage extending from the inlet portion to the outlet portion along the longitudinal axis of the fuel injector;

an armature proximate the inlet portion of the body;

a cylindrical needle operatively connected to the armature;

a seat disposed at the outlet portion of the body; and

a swirl generator proximate the seat, the swirl generator having a guide member contiguous to at least one flat disk;

wherein the cylindrical annulus of the body includes an inner diameter that is greater than a diameter of the cylindrical needle so as to define the body passage, which maintains an operative relationship between the body and the needle when the body is exposed to operating temperatures of a cylinder of an engine, and wherein the seat includes a first surface exposed to the fuel passageway and a second surface exposed to an exterior of the fuel injector, the first surface being spaced from the second surface a defined distance along the longitudinal axis, the first surface having at least one cut-out configuration that extends for a fraction of the defined distance into an interior of seat.

Subpt 21. (Amended) A method of stabilizing temperature of a direct injection fuel injector, the direct injection fuel injector having a body and a neck portion; an armature proximate an inlet of the body; a needle operatively connected to the armature; a seat disposed at the outlet of the body; and a swirl generator proximate the seat, the method comprising:

providing the needle with a substantially uniform cross-sectional area and the neck portion with a metallic cylindrical annulus, the metallic cylindrical annulus having an outer surface with a first section and a second section of a substantially constant outer diameter with a annular member disposed between the first and second sections; and

selecting the metallic cylindrical annulus to surround the needle and to form a body passage having an average cross-sectional area of less than 2.25 times the substantially uniform cross-sectional area of the needle, the body passage maintaining an operative relationship between the body and the needle so that fuel in the body passage transfers heat from the body to the needle to maintain a minimum temperature gradient and to maintain an operative relationship between the body and the needle when the body is exposed to operating temperatures of an engine cylinder.

Subpt 22.(Amended) The method of claim 21, wherein the step of providing further comprises providing a substantially cylindrical member as the needle, and a cylindrical annulus as a neck

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of the body, the cylindrical annulus having an inner diameter that is no more than 50% greater than substantially uniform diameter of the substantially cylindrical member, and an outer diameter that is no less than 100% greater than the inner diameter.